UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte JOEL E. SHORT, FREDERIC DELLY, MARK F. LOGAN, and
DANIEL TOOMEY

———————

Appeal 2009-002481
Application 09/693,481[1]
Technology Center 2400

———————

Decided: October 30, 2009

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Before JEAN R. HOMERE, JOHN A. JEFFERY, and ST. JOHN
COURTENAY III, *Administrative Patent Judges.*

HOMERE, *Administrative Patent Judge.*

DECISION ON APPEAL

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[1] Filed on October 20, 2000. This application claims priority from
provisional application 60/161,182, filed October 22, 1999. The real party
in interest is Nomadix, Inc. (App. Br. 1.)

I.   STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 3, 6, 8, 9, 11 through 13, and 28 through 35. Claims 2, 4, 5, 7, and 14 through 27 have been cancelled. (App. Br. 4.) Claim 10 is allowable if rewritten in independent form including all the limitations of the respective base claims and any other intervening claims. (Ans. 17-18.) We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellants' Invention

Appellants invented a method for providing dynamic bandwidth management on a per subscriber basis in a communication network. (Spec. 1, ll. 10-12.) Appellants' Figure 4B depicts the operations performed by a gateway device on the data packets being delivered to the network. (Spec. 17, ll. 12-13.) At blocks 300 and 310, the gateway device receives a new packet for processing, it extracts the media access control ("MAC") address, and retrieves the subscriber profile associated therewith. (Spec. 17, ll. 13-17.) At block 320, the gateway device determines the bandwidth chosen by the subscriber based on the subscriber's profile. (Spec. 17, ll. 17-23.) At block 330, if the packet transmission requires adjustment, the gateway device calculates the appropriate delay and processes the data packet accordingly. (Spec. 17, ll. 23-24.) Further, the subscriber may dynamically change either the downlink or uplink bandwidths. (Spec. 14, ll. 10-13.) Additionally, the subscriber can establish asymmetric bandwidths for upstream and downstream communications. (Spec. 10, ll. 5-9.)

Illustrative Claim

Independent claim 1 further illustrates the invention as follows:

1.   A method for dynamic control of data transfer by a subscriber during an on-going network session, comprising:

receiving a data packet at a gateway device;

identifying, at the gateway device, a subscriber associated with the data packet;

retrieving from memory a subscriber profile that includes subscriber-selected bandwidth;

determining if a transfer rate for data packet transmission should be adjusted based on the subscriber-selected bandwidth; and

adjusting the transfer rate for data packet transmission based on the outcome of the determination process;

wherein the transfer rate for data packet transmission is adjustable by a subscriber at any time during the on-going network session based on adjustment of the subscriber-selected bandwidth during the on-going network session, and

wherein retrieving from memory a subscriber profile that includes subscriber-selected bandwidth further comprises retrieving from memory a subscriber profile that includes a first subscriber-selected bandwidth for information being sent to a network and a second subscriber-selected bandwidth for information being retrieved from a network, the first and second subscriber-selected bandwidths being separate.

Prior Art Relied Upon

The Examiner relies on the following prior art as evidence of unpatentability:

Fowler	5,793,978	Aug. 11, 1998
Sherman	5,978,387	Nov. 2, 1999

		(filed May 31, 1996)
Jones	6,307,836 B1	Oct. 23, 2001
		(filed Dec. 10, 1997)
Barton	6,310,886 B1	Oct. 30, 2001
		(filed Aug.18, 1998)
Salkewicz	6,609,153 B1	Aug. 19, 2003
		(filed Dec. 24, 1998)
Gulliford	6,618,355 B1	Sep. 9, 2003
		(filed May 7, 1999)
Ayres	6,738,371 B1	May 18, 2004
		(filed Sep. 28, 1999)

Rejections on Appeal

The Examiner rejects the claims on appeal as follows:

Claims 1 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ayres, Sherman, and Jones.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ayres, Sherman, Jones, and Gulliford.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ayres, Sherman, Jones, and Salkewicz.

Claims 8, 9, 11, 13, 29 through 32, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ayres, Sherman, Jones, and Fowler.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ayres, Sherman, Jones, Fowler, and Barton.

Claims 28 and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ayres and Sherman.

Appellants' Contentions

Appellants contend that Jones' disclosure of two subscriber-selected bandwidths entails selecting a variable number of upstream and downstream bearer channels from the network via a subscriber interface device. (App. Br. 5-6; Reply Br. 3-4.) In particular, Appellants argue that Jones' cited disclosure does not teach that the bandwidths of the respective channels may be separate or subscriber-selected. (*Id.*) Therefore, Appellants submit that Jones does not teach retrieving from memory a subscriber profile that includes a first subscriber-selected bandwidth for information being sent to a network and a second subscriber-selected bandwidth for information being retrieved from a network, the first and second subscriber-selected bandwidths being separate, as recited in independent claim 1. (*Id.*)

Examiner's Findings and Conclusions

The Examiner finds that Ayres' disclosure of a subscriber profile with a subscriber-selected bandwidth and both upstream and downstream channels, in conjunction with Jones' disclosure of two, separate subscriber-selected bandwidths, teaches the disputed claim limitation. (Ans. 16.)

II. ISSUE

Have Appellants shown that the Examiner erred in concluding that the combination of Ayres, Sherman, and Jones renders independent claim 1 unpatentable? In particular, the issue turns on whether the proffered combination teaches retrieving from memory a subscriber profile that includes a first subscriber-selected bandwidth for information being sent to a network and a second subscriber-selected bandwidth for information being

retrieved from a network, the first and second subscriber-selected

bandwidths being separate, as recited in independent claim 1.

III. FINDINGS OF FACT

The following Findings of Fact ("FF") are shown by a preponderance

of the evidence.

Ayres

1.   Ayres generally relates to regulating and managing the flow of

data packets in a packet data router. (Col. 1, ll. 20-23.) Ayres discloses that

the end user may be single customers themselves, or there may be multiple

(e.g. networked) users combined as a single customer account by the Internet

Service Provider ("ISP"). (Col. 1, ll. 65-67.) "Each customer account may

be allocated a respective level of service priority and packet throughput

bandwidth by the ISP, depending on the type and level of service

connectivity that is contracted for." (Col. 1, l. 67 through Col. 2, l. 3.)

2.   Ayres' Figure 1 depicts a preferred packet data router (20)

employed as an internal gateway by an ISP (22). (Col 4, l. 66 through Col 5,

l. 1.)

> The router (20) receives "upstream" data packets from a
> plurality of different end users (24). Based on routing
> information contained in each received data packet, the router
> (20) either (1) forwards the packet to a respective Internet
> server (38); (2) forwards the packet to an end user (24)
> connected to the router (20); or (3) drops the packet due to it
> having an unknown destination address or being otherwise
> undeliverable. The router (20) also receives "downstream" data
> packets from the Internet server(s) (38) and, if possible,
> forwards the received downstream packets to respective end
> users (24.)

(Col. 5, ll. 1-10.)

3.   Ayres' Figure 3 depicts that, based on respective quality of service ("QOS") profiles (74) maintained by the ISP (22), the flow manager (54) will adjust the flow rate of ingress data queue(s) (48) that will least adversely impact QOS criteria for any one end user (24), user group (32A or 32B) and/or virtual router instances ("VRI") (50 or 52). (Col. 8, ll. 33-37.) In particular, certain aspects of each customer QOS profile (74) are maintained in the data queue head structure (55) of each ingress data queue (48). (Col. 8, ll. 38-40.) Further, "[t]he flow manager (54) also manages data bursts that may be received on each ingress data queue (48)." (Col. 8, ll. 55-56.) "The QOS user profiles (74) preferably provide for an end user (24) to be given an additional amount of packet processing bandwidth for a short period of time in order to accommodate for occasional burst packet traffic." (Col. 8, ll. 56-60.)

Jones

4.   Jones generally relates to increasing and decreasing bandwidth allocated to a communications session, and changing the access line mode during the course of a communications session. (Col. 4, ll. 30-33.) Jones' Figure 1 depicts that "[u]pstream communication is accomplished over upstream channels (122) including 'n' number of Bearer and a Data (n B+D) upstream channels of bandwidth." (Col. 7, ll. 55-57). "Downstream communication is facilitated over downstream channels (124) including 'm' number of Bearer and a Data (m B+D) downstream channels of bandwidth." (Col. 7, ll. 57-60.) Further, "[n]etwork intelligence (114) permits the network to respond to subscriber application service requests to provide user (104) transport bandwidth (112)" and call processing. (Col. 9, ll. 47-49; 52-53.) "Call processing handles a call setup initial request and subsequent

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requests during the connection of the call to add or subtract transport
bandwidth (112) within the subscriber's service profile." (Col. 9, ll. 53-56.)

IV. PRINCIPLES OF LAW

Obviousness

"On appeal to the Board, an applicant can overcome a rejection [under
§ 103] by showing insufficient evidence of *prima facie* obviousness or by
rebutting the *prima facie* case with evidence of secondary indicia of
nonobviousness." *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998).

> Section 103 forbids issuance of a patent when "the differences
> between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains."

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007).

In *KSR*, the Supreme Court emphasized "the need for caution in
granting a patent based on the combination of elements found in the prior
art," and discussed circumstances in which a patent might be determined to
be obvious. *Id.* at 415 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12
(1966)). The Court reaffirmed principles based on its precedent that "[t]he
combination of familiar elements according to known methods is likely to be
obvious when it does no more than yield predictable results." *Id.* at 416.
The operative question in this "functional approach" is thus "whether the
improvement is more than the predictable use of prior art elements according
to their established functions." *Id.* at 417.

In identifying a reason that would have prompted a person of ordinary
skill in the relevant field to combine the prior art teachings, the Examiner

must show some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

V. ANALYSIS

Claim 1

Independent claim 1 recites, in relevant part:

> retrieving from memory a subscriber profile that includes a first subscriber-selected bandwidth for information being sent to a network and a second subscriber-selected bandwidth for information being retrieved from a network, the first and second subscriber-selected bandwidths being separate.

As detailed in the Findings of Fact section above, Ayres discloses the flow manager will adjust the flow rate of data queues based on a QOS user profile maintained by the ISP. (FF 3) Further, Ayres discloses that the QOS user profile allows a respective end user to be given an additional amount of packet processing bandwidth in order to accommodate for occasional burst packet traffic. (*Id.*) We find that Ayres' disclosure teaches that an ISP maintains user profiles for respective users, whereby the user profile contains user-selected bandwidth. We also find that a respective user can request an additional amount of bandwidth to accommodate larger data packet requests.

Next, we find that Jones discloses increasing and decreasing bandwidth allocated to communications session, whereby the session utilizes upstream and downstream channels. (FF 4.) Further, Jones discloses adding or subtracting transport bandwidth within the subscriber's service profile. (*Id.*) We thus find that Jones' disclosure teaches a user profile containing

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both upstream and downstream channels. An ordinarily skilled artisan would readily appreciate that Jones' disclosure teaches increasing and decreasing the data rate (bandwidth) by adding or subtracting a variable number of upstream or downstream channels.

In summary, we find that the ordinarily skilled artisan would appreciate that the combination of Ayres' disclosure with Jones' would predictably result in a user profile that may contain bandwidths for a variable number of upstream and downstream channels. Further, the ordinarily skilled artisan would understand that a user could request additional bandwidth to accommodate larger data packet requests by taking the aggregate collection of increased upstream or downstream channels. Thus, we find that the cited disclosures of Ayres and Jones teach the disputed limitation as set forth above. It follows that Appellants have failed to show that the Examiner erred in concluding that the combination of Ayres, Sherman, and Jones renders independent claim 1 unpatentable.

Claims 3, 6, 8, 9, and 11 through 13

Appellants do not provide separate arguments with respect to dependent claims 3, 6, 8, 9, and 11 through 13. Therefore, we select independent claim 1 as being representative of the cited claims. Consequently, Appellants have not shown error in the Examiner's rejection of dependent claims 3, 6, 8, 9, and 11 through 13 for the reasons set forth in our discussion of independent claim 1 above. 37 C.F.R. § 41.37(c)(1)(vii).

Claim 28

Appellants contend that Ayres discloses that the customer account and not an individual data packet determines the respective level of service priority. (App. Br. 7-9; Reply Br. 4.) Therefore, Appellants submit that

Ayres' cited disclosure does not teach determining if the transfer rate for
data packet transmissions should be adjusted based on a priority of the data
packet, as recited in independent claim 28. (*Id.*) We do not agree.

As detailed in the Findings of Fact section above, Ayres discloses that
each customer account is allocated a respective level of service priority and
packet throughput bandwidth by the ISP. (FF 1.) We find that Ayres'
disclosure teaches that each data packet has a respective level of service
priority by virtue of the level of service priority allotted to the customer
account associated therewith. Therefore, we agree with the Examiner that
each respective data packet is assigned a service priority based on the
corresponding customer account. Thus, we find that the cited disclosure of
Ayres teaches determining if the transfer rate for data packet transmission
should be adjusted based on a priority of the data packet, as recited in
independent claim 28. It follows that Appellants have failed to show that the
Examiner erred in concluding that the combination of Ayres and Sherman
renders independent claim 28 unpatentable.

Claims 29 through 32

Appellants do not provide separate arguments with respect to
dependent claims 29 through 32. Therefore, we select independent claim 28
as being representative of the cited claims. Consequently, Appellants have
not shown error in the Examiner's rejection of dependent claims 29 through
32 for the reasons set forth in our discussion of independent claim 28 above.
37 C.F.R. § 41.37(c)(1)(vii).

Claim 33

Appellants contend that Ayres' disclosure of forwarding packets
based on routing information does not teach performing a packet translation

function to enable the subscriber to access any network without re-configuration of a host device of the subscriber, as recited in independent claim 33. (App. Br. 9-10; Reply Br. 4-6.) Further, Appellants argue that the Examiner has improperly relied upon personal knowledge because the Examiner has not provided support for the Examiner's conclusion that the normal operations of data routing does not require the re-configuration of a router unless a necessary reconfiguration is indicated. (Reply Br. 5-6.) We do not agree.

As detailed in the Findings of Fact Section above, Ayres discloses a packet data router that receives data packets from a plurality of different end users. (FF 2.) Based on routing information contained in each received data packet, the data router may forward the data packet to a respective Internet server or respective end user, or drop the data packet due to it having an unknown destination address. (*Id.*) We find that Ayres' disclosure teaches a router that processes the routing information contained within each data packet and routes the data packet accordingly. In particular, we find that an ordinarily skilled artisan would readily appreciate that conventional data routing operations do not require reconfiguring the router unless indicated otherwise. In summary, since Ayres' disclosure does not require that the router needs reconfiguring each time the router engages in conventional data packet routing, we find that Ayres' disclosure of a router that processes the routing information contained within each data packet and routes the data packet accordingly, teaches the disputed limitation as set forth above. It follows that Appellants have failed to show that the Examiner erred in concluding that the combination of Ayres and Sherman renders independent claim 33 unpatentable.

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Claims 34 and 35

Appellants do not provide separate arguments with respect to dependent claims 34 and 35. Therefore, we select independent claim 33 as being representative of the cited claims. Consequently, Appellants have not shown error in the Examiner's rejection of dependent claims 34 and 35 for the reasons set forth in our discussion of independent claim 33 above. 37 C.F.R. § 41.37(c)(1)(vii).

VI. CONCLUSION OF LAW

Appellants have not shown that the Examiner erred in rejecting claims 1, 3, 6, 8, 9, 11 through 13, and 28 through 35 as being unpatentable under 35 U.S.C. § 103(a).

VII. DECISION

We affirm the Examiner's decision to reject claims 1, 3, 6, 8, 9, 11 through 13, and 28 through 35 as being unpatentable under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

<u>AFFIRMED</u>

nhl

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